

REMARKS

In reply to the Office Action mailed May 19, 2006, Applicants make the following remarks.

Claims 26-28, 31-37, 40-44, and 53-60 are pending. Claims 26 and 43 have been amended, and claims 59 and 60 have been added. Claims 53-58 have previously been withdrawn from consideration. Accordingly, claims 26-28, 31-37, 40-44, and 59-60 are presented for examination, with claims 26 and 43 in independent form.

In the Action mailed May 19, 2006, claim 33 stands withdrawn from consideration. The Examiner alleges the following:

Claim 33 is presently drawn to non-elected species limited to "... a base of polybutyleneterephthalate." Applicant has received at least one action on the merits for claims limited to -- a base of polybutyleneterephthalar --.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 33 is withdrawn from consideration as being directed to a non-elected invention. (Action at page 2.)

Applicants traverse. In the previous response filed by Applicants on April 19, 2006, Applicants made clear that claim 33 was amended only to correct a typographical error, and that no new matter was added by the amendment. One of ordinary skill in the art would understand that the subject matter of previous claim 33 and amended claim 33 are the same, if only because, to Applicants' knowledge, there is no such material named "polybutyleneterephthalar". In fact, the subject matter of claim 33 is disclosed in the originally-filed application at, for example, page 7, lines 24-25, which states that "[t]he reflectors 4 are preferably formed of one piece and manufactured of Pocan[®] (thermal polyester on the basis of polybutyleneterephthalate)". It is clear from the application that the word "polybutyleneterephthalar" in previous claim 33 was simply a misspelling of the word "polybutyleneterephthalate".

Furthermore, in the current Action, the Examiner has rejected claim 33 in view of Waitl et al. (U.S. Patent No. 5,040,868, "Waitl"). The Examiner alleges that "Waitl teaches [col. 4, lines 16-55] the use of injection moldable (1) Pocan[®] (3) [Applicant's polybutyleneterephthalar

(2)] to form reflectors". (Action at page 15.) The Examiner apparently clearly recognizes, and Applicants agree, that both Waitl and Applicants' specification disclose the use of Pocan[®] to form reflectors. Furthermore, the Examiner has recognized that "polybutyleneterephthalar" in previous claim 33 corresponds to the Pocan[®] disclosed by Waitl. In view of the originally-filed application, which clearly indicates the presence of polybutyleneterephthalate in Pocan[®], and the Examiner's allegation that the material used to form reflectors, as recited by claim 33, is the same as Waitl's Pocan[®], Applicants submit that the amendment to claim 33 does not introduce any new species. Accordingly, Applicants request reconsideration of the withdrawal of claim 33 from consideration.

Claims 26, 43, 27, and 31 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kalmanash (U.S. Patent No. 5,211,463, "Kalmanash") in view of Tatsuaki et al. (EP 0 798 507, "Tatsuaki"). Applicants traverse. As amended, independent claims 26 and 43 cover light source elements and liquid crystal displays with light source elements that include waveguides having, in part, a light exit face, where "a surface lying opposite the light exit face, and at least some of lateral surfaces connecting the light exit face and the opposite surface [are] covered with reflectors that contact the surfaces". Neither Kalmanash nor Tatsuaki discloses or suggests the waveguides covered by claims 26 and 43.

To support the rejection, the Examiner has pointed to Figures 6 and 7 in Kalmanash and states that "at least some of lateral surfaces [surface facing viewer in Figure 7 and surface behind (away from viewer), as well as the lower vertical portions of the left and right surfaces] connecting the light exit face and the opposite surface [are] covered with reflectors, 104 on left and right." (Action at page 4.) In fact, however, none of the lateral surfaces of Kalmanash's waveguide are covered by reflectors that contact the surfaces.

Concave surfaces 100 are not covered by reflectors that contact the surfaces, as Figure 6 of Kalmanash shows that light sources 102 are positioned between surfaces 100 and reflectors 104. In fact, if reflectors were positioned to contact surfaces 100, Kalmanash's device would no longer function as he intends, since almost no light from light sources 102 would enter block 86. The lower portions of the lateral surfaces (e.g., beneath concave surfaces 100) are not covered

with reflectors that contact the surfaces either, as Figure 6 of Kalmanash clearly shows a space between these lower lateral surface portions and reflectors 104.

With regard to the end faces of Kalmanash's block 86 (e.g., shown in Figure 7 of Kalmanash), Applicants can simply find no disclosure in Kalmanash that supports the Examiner's allegation that these surfaces are covered by reflectors. Kalmanash does not disclose how his waveguide is to be used, and absent any positive disclosure regarding reflectors that contact the end surfaces of his waveguides, it cannot be fairly stated that these surfaces correspond to surfaces covered by reflectors. Thus, contrary to the Examiner's assertion, none of the lateral surfaces of Kalmanash's waveguide are covered with reflectors that contact the surfaces, as required by claims 26 and 43.

Tatsuaki does not cure Kalmanash's deficiencies in this regard, at least because one of skill in the art would find no motivation to combine Tatsuaki and Kalmanash. In support of the proposed combination of Kalmanash and Tatsuaki, the Examiner alleges that:

Tatsuaki teaches in Figure 12 the use of at least one of the light exit face and the opposite surface of the light waveguide comprise light-scattering sections and plane sections, and an area ratio of the plane sections to the light-scattering sections along the light waveguide is set such that a uniform luminance of the light source element is achieved to provide improved performance directional light diffusing film [Introduction (57)]. (Action at page 5.)

In view of Tatsuaki's disclosure, the Examiner further alleges that:

[I]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kalmanash with the at least one of the light exit face and the opposite surface of the light waveguide comprise light-scattering sections and plane sections, and an area ratio of the plane sections to the light-scattering sections along the light waveguide is set such that a uniform luminance of the light source is achieved of Tatsuaki to provide improved performance directional light diffusing film. (Action at page 6.)

Applicants traverse. Without addressing the Examiner's characterization of Tatsuaki's disclosure, which we do not concede, there would have been no motivation to combine Tatsuaki and Kalmanash in the proposed manner. Kalmanash's device includes

“a diffuser filter 106 to ensure uniform illumination of an LCD 60”” (Kalmanash, col. 7, lines 23-24). In other words, apparently Kalmanash's device already achieves uniform illumination of his LCD panel. There is simply no disclosure or suggestion in Kalmanash that his device suffers from problems associated with non-uniform illumination, especially in view of the fact that Kalmanash has already taken affirmative steps to ensure that his device provides uniform illumination.

In view of the foregoing, Applicants submit that claims 26 and 43 are patentable, and request reconsideration and withdrawal of the rejection of these claims under 35 U.S.C. § 103(a). Claims 27 and 31 depend from claim 26, and are therefore patentable for at least the same reasons. Accordingly, withdrawal of the rejection of these claims is requested as well.

The remaining claims 28, 32-37, 40-42, and 44 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kalmanash in view of Tatsuaki, and further in view of one of the following: Kalmanash, Tai et al. (U.S. Patent No. 6,092,904, “Tai”), Suzuki et al. (U.S. Patent No. 5,949,346, “Suzuki”), Akahane et al. (U.S. Patent No. 5,667,289, “Akahane”), Waitl, Sawayama (U.S. Patent No. 6,048,071, “Sawayama”), or Ge (U.S. Patent No. 6,369,867, “Ge”). Each of these claims depends from either claim 26 or claim 43, and as discussed above, neither Kalmanash nor Tatsuaki, alone or in combination, provides the subject matter of claims 26 and 43.

None of Tai, Suzuki, Akahane, Waitl, Sawayama, or Ge cures the deficiencies of Kalmanash and Tatsuaki. As discussed above, one of skill in the art would find no motivation to combine Kalmanash and Tatsuaki, and none of Tai, Suzuki, Akahane, Waitl, Sawayama, or Ge, in combination with either Kalmanash or Tatsuaki, covers the claimed light source elements and liquid crystal displays.

Accordingly, Applicants submit that each of claims 28, 32-37, 40-42, and 44 is patentable over the Examiner's proposed combination of references, and request reconsideration and withdrawal of the rejection of each of these claims under 35 U.S.C. § 103(a).

In addition to the foregoing, Applicants specifically address below the rejection of certain dependent claims from the above list. However, prior to doing so, Applicants wish to make clear that, contrary to the Examiner's unilateral and unsubstantiated assertion on page 20 of the Office Action, Applicants DO NOT concede ANY of the Examiner's rejections of ANY dependent claims in this application, whether or not Applicants have chosen to specifically address rejections directed to particular dependent claims in prior communications with the Office or in the current communication.

Claim 37 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kalmanash in view of Tatsuaki and Kalmanash. Claim 37 covers light source elements "wherein at least one opening is formed in the film for passage of light radiation". The Examiner alleges that "Kalmanash in view of Tatsuaki, as combined above, discloses the light source element according to claim 35 wherein at least one opening is formed in the film for passage of light radiation [obvious from the above teaching of Kalmanash]." (Action at page 10.) Applicants traverse. In fact, Kalmanash neither discloses nor suggests that his reflectors include openings for the passage of light radiation.

Kalmanash's reflectors include, for example, curved reflectors 104 and planar reflector 98. There are no openings in curved reflectors 104 for the passage of light radiation, and it would not be obvious to provide such openings. To the contrary, curved reflectors 104 are configured "ensure efficient illumination of the block 86" (Kalmanash, col. 7, lines 21-22). In other words, reflectors 104 collect light from light sources 102 that is propagating away from block 86 and direct the light into block 86. If reflectors 104 had openings for the passage of light radiation, the efficiency of Kalmanash's device would be reduced. Thus, there would be no motivation to include such openings in reflectors 104.

Similarly, reflector 98 includes no such openings. Kalmanash's device is configured to emit light through angled surfaces 90, not through planar surface 96. Thus, there would be motivation to modify reflector 98 to include the claimed openings,

because doing so would reduce the efficiency of Kalmanash's device by allowing light to leak out of block 86.

Accordingly, Applicants submit that Kalmanash provides no motivation to include openings in his reflectors for the passage of light radiation, as required by claim 37. Therefore, claim 37 is patentable for at least these reasons, and for the reasons discussed previously in connection with claim 26. As above, reconsideration and withdrawal of the rejection of claim 37 under 35 U.S.C. § 103(a) is requested.

Claim 41 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kalmanash in view of Tatsuaki and Akahane. Claim 41 covers light source elements "wherein the light source element forms a closed ring". The Examiner alleges that "Akahane teaches that his light source element can be any of a number of shapes to accommodate different displays including a closed ring per Figure 8" (Action at page 14), and that "it would have been obvious ... to modify the invention of Kalmanash in view of Tatsuaki with the element wherein the light source element forms a closed ring as an art recognized configuration suitable for illumination of a display shape" (*id.*). Applicants traverse.

In fact, Akahane does not disclose a light source element that forms a closed ring. The light source element in Figure 8 of Akahane is "a circle shaped plate 1D" (Akahane, col. 8, line 67). Further, Applicants can find no disclosure in any of Kalmanash, Tatsuaki, or Akahane of a light source element that forms a closed ring. Accordingly, the subject matter of claim 41 is neither disclosed nor suggested by any of these references.

Therefore, claim 41 is patentable for at least these reasons, and for the reasons discussed previously in connection with claim 26. As above, reconsideration and withdrawal of the rejection of claim 41 under 35 U.S.C. § 103(a) is requested.

Claim 28 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kalmanash in view of Tatsuaki and Sawayama. Claim 28 covers light source elements "wherein at least one triangular projection is formed in at least one of at least one longitudinal lateral surface and the opposite surface of the light waveguide, a

lateral surface of said projection being covered by a reflector and another lateral surface of the projection lying free toward the outside and forming the aperture region". The Examiner alleges that "Sawayama teaches the use of a triangular projection for the illuminator in Figure 9 to achieve desired direction of the travel of light to illuminate a display [abstract]" (Action at page 16), and that "it would have been obvious ... to modify the invention of Kalmanash in view of Tatsuaki with the triangular projection of Sawayama for the illuminator to achieve desired direction of the travel of light to illuminate a display" (Action at page 17). Applicants traverse, for at least the following reasons.

First, it is not at all clear, given the structure of Kalmanash's and Sawayama's waveguides, that these two references can be combined to provide Kalmanash's waveguide with a triangular projection. The Examiner has given no indication of how the proposed combination is to be made, and it is not obvious how to make the proposed combination given the very different modes of operation of the two waveguides. Moreover, it is not clear what the motivation for such a combination would be. Applicants can find no disclosure in Kalmanash that suggests his waveguides can include triangular projections. There does not appear to be any suggestion in Kalmanash that it would be of any advantage to include such projections, or how such projections would be added to his waveguides.

Applicants submit that, in rejecting claim 28, the Examiner is employing hindsight reasoning, using the claims as a template to reconstruct the invention by picking and choosing isolated disclosures from the prior art. This is impermissible under the law. For example, in *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992), the Federal Circuit stated:

It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Gorman*, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated

disclosures in the prior art to deprecate the claimed invention.”
(quoting *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600)

The present rejection of claim 28 fits the court's description of what may not be done under § 103. The Examiner has identified certain limitations of claim 28 and then located isolated disclosures of those limitations. The law requires more than that. Absent any positive disclosure or suggestion in Kalmanash regarding triangular projections, one skilled in the art would find no motivation to combine Kalmanash and Sawayama in the manner suggested by the Examiner.

Second, even if, for the sake of argument, the proposed combination is made (which we do not concede), Kalmanash and Sawayama together still fail to provide the subject matter of claim 28. In particular, claim 28 requires that “a lateral surface of said projection [is] covered by a reflector and another lateral surface of the projection [is] free toward the outside and [forms] the aperture region”. In Figure 9 of Sawayama, surface 45 corresponds most closely with the surface that forms the aperture region. However, the other lateral surface of the projection, surface 43, is not covered by a reflector, as required by claim 28. Light enters Sawayama's waveguide via reflection from surface 43. The light reflects from reflector 17, and then exits the waveguide through surface 43. If surface 43 was covered with a reflector, Sawayama's device would no longer be operable in the same manner, because light would not be able to exit his device. One of skill in the art would find no motivation to cover either of Sawayama's lateral surfaces 43 or 45 with reflectors, and thus the alleged combination of Kalmanash and Sawayama fails to either disclose or suggest the subject matter of claim 28.

Therefore, claim 28 is patentable for at least these reasons, and for the reasons discussed previously in connection with claim 26. As above, reconsideration and withdrawal of the rejection of claim 28 under 35 U.S.C. § 103(a) is requested.

New claims 59 and 60 have been added. Support for claim 59 is found in the original application at, for example, at page 8, line 29 through page 9, line 4. Support for claim 60 is found, for example, in Figures 1, 2, and 4 of the original application. Claims

Applicant : Franz Schellhorn et al.
Serial No. : 09/868,364
Filed : October 12, 2001
Page : 15 of 15

Attorney's Docket No.: 12406-126001 / 1998P6012 US
N

59 and 60 each depend from claim 26, and are therefore patentable for at least the same reasons discussed above.

In view of the foregoing, we ask that the application be allowed.


Canceled claims, if any, have been canceled without prejudice or disclaimer. Any circumstance in which Applicants have: (a) addressed certain comments of the Examiner does not mean that Applicants concede other comments of the Examiner; (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims; or (c) amended or canceled a claim does not mean that Applicants concede any of the Examiner's positions with respect to that claim or other claims.

Enclosed is a \$120.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 12406-126001.

Respectfully submitted,

Date:

9/18/06



Marc M. Wefers
Reg. No. 56,842

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (617) 542-8906